CHAPTER 30

RADIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

500 BED FLEET HOSPITAL

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500 BED FLEET HOSPITAL

STANDARD OPERATING PROCEDURES

RADIOLOGY DEPARTMENT

A. **MISSION:** Provide diagnostic imaging services in support of combat-related injuries.

B. **FUNCTIONS:**

1. Administer the Radiology Department.

2. Perform, interpret, and report diagnostic imaging procedures.

3. Provide mobile x-ray capability to ORs, ICUs, Wards, and other areas upon request.

C. **PHYSICAL DESCRIPTION:**

1. Head, Radiology Department.

a. Location within complex:

b. Sheltering.

Type: Temper Tent.

Number:

c. Material.

IOL: 0012, 0013, 0025, 0026, R01A-B, R02A-B

2. X-Ray Module.

a. Location within complex:

b. Sheltering.

Type: Expandable, hardwall Shelters.

Number: Three, 2:1 ISO expandable shelters.

c. Material.

IOL: 0012,0013, 0025, 0026, R01A-B, R02A-B

3. X-Ray Support Space.

a. Location within complex:

b. Sheltering.

Type: Temper Tent.

Number: Eleven sectons shared with Lab.

c. Material.

IOL: 0012, 0013, 0025, 0026, R01A-B, R02A-B

D. **SPECIAL CONSIDERATIONS:**

1. There is no nuclear medicine capability.

2. There is no CT capability.

3. There is no angiography capability.

4. All film processing must be accomplished in the x-ray module.

5. Only low capacity portable examination capability available to ORs.

E. **WORKLOAD:** N\A.

F. **ORGANIZATION:**

1. Responsibility. The Head, Radiology Department, who reports to the Director of Ancillary Services, is assigned overall management responsibility.

2. Organization Chart.

CO

DIRECTOR OF ANCILLARY SERVICES

HEAD OF RADIOLOGY

RADIOLOGIST 0-3

RADIOLOGY SUPERVISOR E-7

RADIOLOGIST 0-3

ADVANCED X-RAY TECH E-6 (9)

ADVANCED X-RAY TECH E-6 (9)

BASIC X-RAY TECH E-4

3. Staffing:

(a) Criteria.

(1) A Radiologist must be assigned to each watch.

(b) Staffing pattern: Two 12 hour watches.

Personnel Assigned	AM Watch	Night Watch	Total
Head, Radiology Dept	1 (O5)		1
Radiologist	1 (03)	1 (O3)	2
Radiology Supervisor	1 (E7)		1
Advanced X-Ray Tech	9 (E6)	9 (E6)	18
Basic X-Ray Tech	1 (E4)		1

4. Assignments by billet sequence number: See TAB A, page 19.

5. Watch bill: See TAB B, Page 20.

6. Special Watches: N/A

G. **TASKS:**

	TASK	METHOD
1.	PROVIDE CLINICAL INTERPRETATION OF RADIOGRAPHIC STUDIES.	1.1 Written diagnostic imaging studies is provided as required Final reports are written on Standard Form 519A (Medical Record - Radiographical Report). Reports must be legible.
		1.1.A Provide verbal reports as appropriate.
		1.2 Give priority to stat or other urgent studies for interpretation.
2.	INTERPRETATION OF DIAGNOSTIC IMAGING STUDIES USING CONTRAST MEDIA will	2.1 Diagnostic imaging procedures which require the use of contrast material Read and interpreted Written reports will be provided.
		2.1.A Consent for the administration of intravenous or other contrast materials is implied.
3.	PERFORM ROUTINE DIAGNOSTIC IMAGING STUDIES	3.1 Performed requested diagnostic imaging studies IAW technique Charts contained in TABs C-1 through C-50.
		3.1.A Positioning of the patient and the number of views included in the examination shall be IAW TABs C-1 through C-50.
		3.1.B The radiographs diagnostic quality will be optimal within the equipment's capability.
		3.1.C When radiographs of two positions of the same anatomic structure for a single patient are requested, radiographs are completed within 20 minutes, single positions are completed in 10 minutes under normal circumstances.
		3.1.D Procedures are logged in the Day Log IAW TAB C-53.
		3.1.E Radiographic services are provided 24 hours a day.
4.	INTERPRETATION OF REQUEST FOR EXAMINATION	4.1 The request for diagnostic imaging procedures shall be reviewed for patient's name, register number, clinical diagnosis, requested procedure, and date.
		4.1.A Personnel will properly identify anatomic structure and positions to be radiographed.
		4.1.B Notify the prescribing physician if request contains insufficient information or cannot be interpreted.

5.	PREPARE THE PATIENT	5.1 Confirm identity of the patient.
		5.1.A Instruct patient before, during, and after exposure of the radiograph regarding the procedure, position, breathing, and movement.
		5.1.B Position and immobilize patient for a requested radiograph IAW TABs C-1 through C-50. Use safe handling techniques. Make anatomic measurements as required.
6.	PREPARE EQUIPMENT	6.1 Prepare equipment IAW manufacturer's manuals and technique charts contained in TABs C-1 through C-50.
		6.1.A Use appropriate equipment and film-screen combination to determine basic exposure factors.
		6.1.B Use compensating factors to determine final exposure factors.
		6.1.C Focal film distances must be within one inch of determined distance.
		6.1.D Collimator must be set for the area of exposure.
		6.1.E Center central ray to film.
7.	PREPARE THE FILM	7.1 Select film cassettes for desired projections IAW TABs C-1 through C-50. Attach identification data and position markers. Identification data will be IAW TAB C-54.
		7.1.A Place film cassettes at the appropriate points of reference IAW TABs C-1 through C-50.
8.	EXPOSE FILM	8.1 Make and verify exposure IAW manufacturer's equipment instructions.
9.	PROCESS FILM	9.1 Process exposed film or films in the automatic film processor enclosed within the x-ray module.
10.	PERFORM RADIOGRAPHIC STUDIES USING CONTRAST.MEDIA	10.1 Ensure that supplies are on hand
		10.1A Schedule requested procedures IAW TAB C-56.
		10.1B Perform requested radiographs IAW TABs C-1 through C-50 and manufacturers instructions and technique charts.
		10.1C Radiographs must be of diagnostic quality within equipment and environmental limitations.

		10.2 Contrast media may be administered only by authorized individuals.
		10.2A Consent for administration of contrast materials is implied.
		10.3 Log procedure results on Fluoroscopic Schedule/Report Form, TAB G-3, and retain on file.
11.	PROVIDE PREPARATION INSTRUCTIONS FOR IMAGING PROCEDURES C-1	11.1 Follow preparation routines commonly performed studies as specified in TABs through C-50.
		11.1A Give oral and/or written preparation instructions to patients and/or nursing staff.
		11.1B Instructions must be understandable to the patient and/or staff instructed.
		11.1C Requirement may include dietary restrictions, medication limitations or augmentation, and reporting time requirements.
		11.2 Authorized personnel may issue preparation packages with drugs (e.g., laxatives, contrast material tablets) or prepared prescriptions.
12.	VERIFY PATIENT PREPARATION	12.1 Question patient/attendant, and/or review clinical record as appropriate to determine whether prescribed preparation has been carried out.
		12.1A Notify Radiologist if preparation has not been carried out as prescribed.
13.	PREPARE FACILITY FOR FLUOROSCOPY	13.1 Ensure that area is as free of white light as possible within the environment. Equipment preparation is in IAW manufacturer's instructions. Set control panel for fluoroscopy.
		13.1A Prepare table in upright position with foot rest and fluoroscopy screen in place.
		13.1B Ensure that appropriate cassettes are on hand for spot and follow up films.
14.	ADMINISTER CONTRAST MEDIA	14.1. TABs C-44 through C-49 or physician orders specify amounts and name of contrast material and route of administration.
		14.1A Only authorized personnel may administer injectable contrast material.
		14.1B Consent for administration of the contrast material is implied.

		14.2 Ensure that emergency equipment is immediately available.
		14.2A Question patients to receive injectable contrast material thoroughly regarding drugs, or food sensitivity. Report possible discrepancies to the physician prior to administering contrast material.
		14.3 Ensure that all assigned personnel are thoroughly trained to recognize common adverse reactions to intravenous contrast material.
		14.3A React IAW TAB C-51, paragraph 6 if recognizable symptoms occur.
		14.3B Administer contrast material using the appropriate techniques.
15.	PERFORM PROCEDURES REQUIRING CONTRAST MEDIA	15.1 Physician directs activities such as movement of patient, equipment adjustment, administration of contrast materials. Operate equipment IAW manufacturers instructions.
		15.2 Steps in obtaining standard radiographs are IAW TABs through .
		15.2A Patient position, film technique to be used, and film exposure time will be directed by physician or IAW TABs C-1 through C-50.
16.	PROCESS FILMS USING AUTOMATIC METHODS	16.1 Prepare film processors for use IAW with manufacturer's instructions. Prepare solutions IAW manufacturer's instructions. Maintain tanks at optimal fill level. Replace solution IAW manufacturer's instructions. Ensure that there is no cross-contamination between tanks and mixing containers.
		16.1A Check filter cartridges frequently and clean or replace as necessary.
		16.1B Adjust water flow IAW manufacturer's instructions.
		16.1C Process clean up film.
		16.1D Turn on darkroom safe light and eliminate white light prior to handling exposed film. Unload exposed films from cassettes without wrinkling, bending or rubbing.
		16.1E Affix I.D. to films in the darkroom IAW TAB C-54.
		16.1F Insert films into the processor IAW

			manufacturer's instructions. Clear film jams and troubleshoot IAW with manufacturer's instructions.
		16.1G	Shutdown processor IAW manufacturer's instructions. Turn all switches to off position. Turn off water flow and open processor cover slightly.
17.	PROCESS FILM USING MANUAL METHOD	17.1	Prepare solutions IAW manufacturer's instructions. Keep trays at desired temperature and at optimal level of fill. Rotate solutions IAW manufacturer's instructions.
		17.1A	Ensure that there is no cross contamination between trays and that work bench is kept dry.
		17.1B	Remove exposed film from holders and affix I.D. to film IAW TAB C-54.
		17.1C	Mount wet film on processing hangers for developing, fixing, washing, and drying.
		17.2	Expose to safe light at a minimum.
		17.3	Use timer for each processing step.
18.	DISPOSE OF USED SOLUTIIONS	18.1	Dispose of used solutions IAW TAB C-57.
19.	LOAD FILM CASSETTES	19.1	Load film cassettes with unexposed film and place in an appropriate section of the pass box or storage area.
		19.1A	Maintain working levels of loaded film cassettes at all times.
20.	PREPARE PROCESSED RADIOGRAPHS FOR INTERPRETATION	20.1	Prepare processed films with accompanying Standard Form 519A for interpretation.
		20.1A	Group all films for one patient together.
21.	PERFORM RADIOGRAPHIC QUALITY CONTROL ASSESSMENT	21.1	Inspect films to assure that requested anatomical area to be studied is(are) included in the examination of the proper patient.
		21.1A	Ensure that proper identification and position markers are visible on film IAW TAB C-54 and Standard Form 519A.
		21.2	Inspect all radiographs to assure that they meet acceptable standards.
		21.3	Follow procedures specified in TAB C-55 in event films do not meet standards, or radiologists make such a determination on a case-by-case basis.

		21.4 Staff and supervisory personnel ensure standardization of processing procedures, exposure factors, and exposure techniques.
22.	MANAGE RADIOGRAPHICS AND REPORTS	22.1 Keep radiographs and associated SF519A together at all times.
		22.1A Record all studies for given patient on a film jacket; initiate jacket as needed for each patient.
		22.1B Consolidate loose films received from other facilities within the patient's jacket.
		22.2 Forward original Examination Report (SF 591A) and all radiographs to the ward. These are maintained with the patient at all times.
		22.3 Maintain a single copy of the diagnostic imaging report (SF 519A) in the radiology department filed by register number.
23.	RADIATION SAFETY PROCEDURES	23.1 Ensure that patients and staff are exposed to the lowest possible level of radiation.
		23.1A Use protective devices and barriers at all times.
24.	PROTECT PATIENTS FROM EXCESS RADIATION	24.1 Ensure that exposure factors provide the lowest feasible exposure to radiation.
		24.1A Use filtration and collimation at all times.
		24.1B Limit the primary beam to the smallest possible area so that primary radiation does not cover areas beyond the border of the film.
		24.1C Ensure that total filtration does not exceed 2.5mm of aluminum or equivalent for voltages greater than 70 KVP.
		24.1D Use gonadal shielding IAW TAB C-62. Ensure that shielding does not cover the part to be examined.
		24.1E Avoid repeat procedures by careful determination of exposure factors, timing, and film processing.
		24.1F Calculate safe exposure limitations using techniques chart and manufacturer's tube rating chart.
25.	PROTECT STAFF FROM EXCESS EXPOSURE	25.1 Use protective devices (aprons, gloves, etc.), and shielding devices IAW TAB C-62 to protect from exposure to primary beam or scatter radiation.

		25.2 Use mechanical support or restraining device to position the patient.
		25.2A If staff must hold patient, use appropriate shielding, i.e., protective gloves, and apron.
26.	OPERATE RADIATION SAFETY PROGRAM	26.1A Qualified Radiation Safety Officer (may be enlisted specialist) will be appointed to enforce safety measures.
27.	EMPLOY SAFE PATIENT HANDLING PROCEDURES	27.1 Care and proper restraint procedures preclude injury to patients and staff. Obtain assistance as necessary.
		27.1A Move patients with known or suspected spinal injuries only under the direct supervision of physician.
		27.1B Monitor patient condition.
		27.1C Recognize and react properly to treat patients during medical emergency.
28.	DETERMINE/MONITOR PATIENT CONDITION	28.1 Determine patient condition from SF519A, patient, attendants, and/or observation.
		28.1A Report changes of condition to physician.
		28.1B Monitor general condition and vital signs as indicated or obtain assistance to do so.
29.	INSTRUCT PATIENT	29.1 Instruct conscious, responsive patient regarding procedure and what he/she is expected to do or have done.
		29.1A Give simple, clear instructions.
30.	MOVE OR TRANSFER PATIENT	30.1 If able and no spinal injury is present, patient moves self as directed. Assist patient as required.
		30.2 When patient must be lifted/positioned, obtain adequate assistance. Use proper transfer techniques and body mechanics to prevent injury to staff.
		30.2A Physician will supervise movement/transfer of patient with known or suspected spinal injuries unless orders have been written to the contrary.
		30.3 Properly support injured extremities at all times.
31.	REACT TO MEDICAL EMERGENCIES	31.1 Personnel must recognize medical emergencies, to include shock, hemorrhage, pulmonary or cardiopulmonary arrest, airway obstruction, adverse reaction to

		injected contrast material, simple fainting.
		31.1A Treat these IAW TAB C-51.
		31.2 Establish and inspect emergency tray IAW TAB C-58.
		31.2A Ensure that there are no outdated or missing items.
		31.3 All personnel must be able to locate emergency equipment and emergency tray immediately and initiate oxygen therapy. Obtain help as needed to manage the emergency.
32.	PERFORM RADIOGRAPHY SERVICES ADMINISTRATIVE FUNCTIONS	32.1 Administrative actions support the provision of clinical services. Adequate staffing within resources is provided and training must be conducted to assure proper skills are mastered. Ensure that service reference library and SOP are on hand. Properly maintain and dispose of films and radiography reports.
		32.2 Properly prepare and maintain service records, reports, and files, and forward IAW TAB C-54 and C-60.
33.	PROVIDE PERSONNEL	33.1 Determine staffing needs and post schedule to assure present-in-section or on-call coverage for service at all times.
		33.1A Recall staff IAW TAB C-52.
		33.1B Provide supervised on-the-job experience to assure that duty personnel have the required skills to accomplish the mission.
34.	MAINTAIN WORKLOAD DATA LOG	34.1 Maintain Day Log IAW with TAB C-53.
		34.2 At a minimum, Log must contain: - Date. - File number assigned (sequential). - Patient's first and last name. - Patient's social security number. - Study performed. - Total number films used. - Location to which patient is delivered
		34.3 All entries in the log must be legible.
35.	PERFORM RADIOGRAPHY SERVICE LOGISTICAL FUNCTIONS	35.1 Ensure that adequate levels of supplies are identified and on hand.
		35.1A Perform operator maintenance IAW manufacturer's instructions.

36.	MAINTAIN WORKING LEVELS OF SUPPLIES/EQUIPMENT	36.1 Identify working levels of supplies.
		36.1A Accomplish request/requisitions/return functions IAW with Chapter 14.
		36.1B Ensure that supplies on hand do not exceed identified levels under normal circumstances.
		36.1C File copies of supply documents.
		36.2 Store supplies properly. Store films in such a way as to preclude accidental exposure and deterioration IAW manufacturer's instructions.
		36.2A Maintain equipment accountability at all times.
37.	PERFORM OPERATOR MAINTENANCE	37.1 Perform operator maintenance for all equipment IAW with manufacturer's instructions.
		37.1A Report maintenance requirements not specified as operator maintenance to general or medical maintenance personnel.
		37.1B Maintain appropriate records.
38.	MAINTAIN DEPARTMENTAL LOG	38.1 The LPO of the watch will maintain the Departmental Log. He will:
		38.1A Document significant events such as:

- Fire.
- Personal injuries.
- Staff musters.
- Utility failures.
- Significant equipment failures.
- Field day activities.
- Watch reliefs.
- Recalls.
- Medical emergencies.
- Crash cart inspections.
- Safety deficiencies.
- Other appropriate events.

H. **STANDARD OPERATING PROCEDURES:** See TAB C, page 22.

I. **CLINICAL POLICIES/GUIDELINES:** See TAB D, page 118.

J. **STANDARDS AND JOB DESCRIPTIONS:** See TAB E, page 121.

K. **DOCUMENTATION:**

1. References See TAB G, page 134.

2. Forms See TAB H, page 135.

TAB A

ASSIGNMENTS BY BILLET SEQUENCE CODE

Department: RADIOLOGY.

BILLET #	TITLE	DESIG/ RATE	RANK	SECTION WATCH
1.	MEDICAL CORPS.			
78029	Hd., Radiology Dept	2100/1670K	O-5	1
78049	Radiologist	2100/1670K	O-3	1
78051	Radiologist	2100/1670K	O-3	2
2.	ENLISTED.			
78019	Radiology Supervisor	0000/HM	E-7	1*
78039	X-Ray Tech - Advanced	0000/HM	E-6	1
78041	X-Ray Tech - Advanced	0000/HM	E-6	2
78043	X-Ray Tech - Advanced	0000/HM	E-6	1
78045	X-Ray Tech - Advanced	0000/HM	E-6	2
78047	X-Ray Tech - Advanced	0000/HM	E-6	1
78049	X-Ray Tech - Advanced	0000/HM	E-6	2
78051	X-Ray Tech - Advanced	0000/HM	E-6	1
78059	X-Ray Tech - Advanced	0000/HM	E-6	2
78061	X-Ray Tech - Advanced	0000/HM	E-6	1
78062	X-Ray Tech - Advanced	0000/HM	E-6	2
78063	X-Ray Tech - Advanced	0000/HM	E-6	1
78065	X-Ray Tech - Advanced	0000/HM	E-6	2
78067	X-Ray Tech - Advanced	0000/HM	E-6	1
78069	X-Ray Tech - Advanced	0000/HM	E-6	2
78071	X-Ray Tech - Advanced	0000/HM	E-6	1
78073	X-Ray Tech - Advanced	0000/HM	E-6	2
78075	X-Ray Tech - Advanced	0000/HM	E-6	1
78077	X-Ray Tech - Advanced	0000/HM	E-6	2
78079	X-Ray Tech - Basic	0000/HM	E-4	1

*NOTE 1. - Permanently assigned to the AM watch.

TAB B

WATCH BILL FOR RADIOLOGY DEPARTMENT

Billet #	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S
78019	*		*		*			*		*		*		*		*		*			
	A	A	A	A	A	A	*	A	A	A	A	A	A	E	A	A	A	A	A	A	D
78039	*	*		*											*		*		*		
	A	A	A	A	A	A	D	P	P	P	P	P	P	*	A	A	A	A	A	A	E
78041	*	*	*	P	P	P	P	P	P	E	A	A	A	A	A	A	D	P	P	P	*
	P	P	P	*	*		*		*										*		*
78043	A	A	A	A	A	A	D	P	P	P	P	P	P	*	A	A	A	A	A	A	E
	*		*		*																
78045	P	P	P	P	P	P	*	A	A	A	A	A	A	D	P	P	P	P	P	P	E
	*		*										*		*		*				
78047	A	A	A	A	A	A	E	P	P	P	P	P	P	D	A	A	A	A	A	A	*
	*	*		*																	
78049	P	P	P	P	P	P	E	A	A	A	A	A	A	*	P	P	P	P	P	P	*
	*		*		*										*		*		*		
78051	A	A	A	A	A	A	*	P	P	P	P	P	P	E	A	A	A	A	A	A	D
	*	*		*																	
78059	P	P	P	P	P	P	D	A	A	A	A	A	A	E	P	P	P	P	P	P	*
	*	*		*			*		*		*										
78061	A	A	A	A	A	A	D	P	P	P	P	P	P	*	A	A	A	A	A	A	E
	*		*		*																
78062	P	P	P	P	P	P	*	A	A	A	A	A	A	D	P	P	P	P	P	P	D
	*	*		*		*		*		*											
78063	A	A	A	A	A	A	E	P	P	P	P	P	P	D	A	A	A	A	A	A	*
	*		*		*																
78065	P	P	P	P	P	P	E	A	A	A	A	A	A	*	P	P	P	P	P	P	D
7806	A	A	A	A	A	A	*	P	P	P	P	P	P	E	A	A	A	A	A	A	D
	*		*		*																
78069	P	P	P	P	P	P	D	A	A	A	A	A	A	E	P	P	P	P	P	P	*
	*		*		*			*		*		*									
78071	A	A	A	A	A	A	D	P	P	P	P	P	P	*	A	A	A	A	A	A	E
	*		*		*																
78073	P	P	P	P	P	P	*	A	A	A	A	A	A	D	P	P	P	P	P	P	E
	*		*		*		*		*		*										
78075	A	A	A	A	A	A	E	P	P	P	P	P	P	D	A	A	A	A	A	A	*
	*		*		*																

78077	P	P	P	P	P	P	E	A	A	A	A	A	A	*	P	P	P	P	P	P	D
	*		*		*			*		*		*									
78079	A	A	A	A	A	A	*	P	P	P	P	P	P	E	A	A	A	A	A	A	D

KEY:

A = 0700-1900.
P = 1900-0700.
E = Excused.
D = Duty.
* = Call.

TAB C

STANDARD OPERATING PROCEDURES

INDEX

TAB C-1

ACUTE ABDOMINAL SERIES

A. **STANDARD VIEWS:**

1. Supine AP abdomen (include symphysis).
2. Upright AP abdomen (include diaphragm).
3. PA chest (erect).
4. Portable (See TAB C-68).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

14x17 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Supine	Bucky 40"/80 @ 90
(b) Upright	Bucky 40"/80 @ 100
(c) PA chest (erect)	Bucky or Grid 72"/110 @ 5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-2

BONE SURVEY (METASTATIC)

A. **STANDARD VIEWS:**

1. AP/LAT all long bones.

2. AP/LAT skull.

3. AP spines.

4. Chest for ribs.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Humerus -AP	Screen 40"/60 @ 7.5
-LAT	Screen 40"/60 @ 7.5
(b) Forearm -AP	Screen 40"/55 @ 5
-LAT	Screen 40"/55 @ 5
(c) Femur -AP	Screen or Bucky 40"/70 @ 6
-LAT	Screen or Bucky 40"/73 @ 6
(d) Tib-Fib -AP	Screen 40"/65 @ 5
-LAT	Screen 40"/65 @ 5
(e) Skull -AP	Bucky or Grid 40"/70 @ 37.5
-LAT	Bucky or Grid 40"/70 @ 20
(f) Spines	
-AP/C-Spine	Bucky or Grid 40"/70 @ 20
-AP/T-Spine	Bucky or Grid 40"/72 @ 50
-AP/LS-Spine	Bucky or Grid 40"/80 @ 40
(g) Ribs	
-AP	Bucky 40"/60 @ 20

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-3

BONE SURVEY (DIVER)

A. **STANDARD VIEWS:**

1. Bilat humerus AP including shoulder.

2. Pelvis.

3. AP both knees to include distal femur and proximal tib-fib.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

FACTOR EXPOSURES

(a) Bi-humerus (See "A" above.)	Screen 40"/60 @ 7.5
(b) Pelvis	Bucky 40"/70 @ 45
(c) Bi-knees (See "A" above)	Bucky 40"/65 @ 5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-4

BONE AGE

A. **STANDARD VIEWS:**

PA of hand to include wrist (one hand).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 8x10.

2. Radiographic techniques.

EXPOSURE FACTORS

Hand/wrist -PA	Screen 40"/53 @ 5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-5

CARDIAC SERIES

A. **STANDARD VIEWS:**

1. PA chest with barium.
2. RAO chest with barium.
3. LAT chest with barium.
4. LAO without barium (60 degrees).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.
2. Radiographic techniques.

Upright

Chest

Holder

EXPOSURE FACTORS

(a) PA chest with barium	72"	80 @ 10
(b) RAO chest with barium	72"	80 @ 10
(c) LAT chest with barium	72"	100 @ 15
(d) LAO without barium	(60 degrees) 72"	80 @ 10

3. Supplies. N/A.

D. **PREPARATION REQUIRED:**

1. Use regular chest technique and barium - PA, RAO, LAT.
2. LAO at 60 degrees rotation without barium.

TAB C-6

CERVICAL SPINE

A. **STANDARD VIEWS:**

Note: For C-spine trauma - refer to TAB C-30.

1. AP.
2. Lateral (right side).
3. Both obliques.
4. Swimmers view if C7/Tl does not visualize.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.
2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP	Bucky 40"/70 @ 20
(b) Lateral (right side)	Bucky 40"/80 @ 20
(c) Both obliques	Bucky 40"/80 @ 20
(d) Swimmers view if C7/TL does not visualize	Bucky 40"/110 @ 50

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-7

CHEST

A. **STANDARD VIEWS:**

1. PA view.

2. LAT view.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 14x17 (all views).

2. Radiographic techniques.

Upright

Chest

Holder

EXPOSURE FACTORS

(a) PA view	Grid 72"	110 @ 5
(b) LAT view	Grid 72"	110 @ 7.5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-8

CLAVICLE

A. **STANDARD VIEWS:**

1. AP view.

2. AP view with 15 degree cephalic tube tilt.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP view	Bucky 40"/60 @ 15
(b) AP view with 15 degree cephalic tube tilt	Bucky 40"/60 @ 20

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-9

COCCYX

A. **STANDARD VIEWS:**

1. Lateral view.

2. AP view with 15 degree cephalic tube tilt.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Lateral view	Bucky 40"/90 @ 120
(b) AP view with 15 degree cephalic tube tilt	Bucky 40"/80 @ 100

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-10

EXTREMITIES

A. **STANDARD VIEWS:**

1. Fingers; PA/L AT/OBL.
2. Thumb; PA/LAT/OBL (B/L PA Views with INT/EXT stress).
3. Hand; AP/LAT/OBL.
4. Wrist; AP/LAT/OBL.
5. Humerus; INT/EXT in Grashey Position.
6. Elbow; AP/LAT (in 90 degree position) (Trauma - refer to TAB C-31.)
7. Foot; AP/OBL/LAT.
8. Ankle; AP/LAT/MORTISE.
9. Tib-Fib; AP/LAT.
10. Knee; AP/LAT/SUNRISE/TUNNEL (Trauma - refer to TAB C-32.)
11. Femur; AP/LAT.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.
2. Radiographic techniques.

EXPOSURE FACTORS

(a) Fingers.

(1) PA	Screen 40"/45@5
(2) LAT	Screen 40"/45 @ 5
(3) OBL	Screen 40"/45 @ 5

(b) Thumb.

(1) PA	Screen 40"/50 @ 5
(2) LAT	Screen 40"/50 @ 5
(3) OBL	Screen 40"/50 @ 5

(B/L PA Views with INT/EXT Stress)

(c) Hand.

(1) AP	Screen 40"/50 @ 5

	(2) LAT	Screen 40"/55 @ 5
	(3) OBL	Screen 40"/50 @ 5
(d)	Wrist.	
	(1) AP	Screen 40"/50 @ 5
	(2) LAT	Screen 40"/55 @ 5
	(3) OBL	Screen 40"/50 @ 5
(e)	Hemmers.	
	(1) Int/Ext	Screen 40"/65 @ 7.5
(f)	Elbow.	
	(1) AP	Screen 40"/55 @ 5
	(2) LAT (in 90 degree position)	Screen 40"/55 @ 5
g)	Foot.	
	(1) AP	Screen 40"/52 @ 3.3
	(2) OBL	Screen 40"/52 @ 3.3
	(3) LAT	Screen 40"/52 @ 5
(h)	Ankle.	
	(1) AP	Screen 40"/50 @ 5
	(2) LAT	Screen 40"/50 @ 5
	(3) MORTISE	Screen 40"/50 @ 5
(i)	TIB-FIB	
	(1) AP	Screen 40"/60 @ 6.7
	(2) LAT	Screen 40"/60 @ 6.7
(j)	Knee.	
	(1) AP	Screen 40"/60 @ 6.7
	(2) LAT	Screen 40"/60 @ 6.7
	(3) SUNRISE	Screen 40"/60 @ 6.7
	(4) Tunnel	Screen 40"/65 @ 6.7
(k)	Femur.	
	(1) AP	Screen 40"/65 @ 6.7
	(2) LAT	Screen 40"/65 @ 6.7

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-11

FACIAL BONES

A. **STANDARD VIEWS:**

Note: Trauma - refer to TAB C-33.

1. PA.
2. Lateral view.
3. Waters view.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 10x12 (all views).
2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA	Bucky 40"/70 @ 3.5
(b) Lateral view	Bucky 40"/60 @ 15
(c) Waters view	Bucky 40"/70 @ 45

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-12

HIP/PELVIS

A. **STANDARD VIEWS:**

Note: For trauma - refer to TAB C-34.

1. Adults; AP pelvis to include both hips, lateral lorentz.

2. Children; AP pelvis to include both hips, froglegs.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

(a) Adults -14x17

(b) Children -As needed

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Adults.

(1) AP	Bucky 40"/70 @ 45
(2) Frogleg	Bucky 40"/70 @ 45

(b) Child.

(1) AP	Bucky 40"/50 @ 3.3
(2) Frogleg	Bucky 40"/50 @ 3.3

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-13

KUB

A. **STANDARD VIEWS:**

AP supine view (centered Iliac Crest).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 14x17.

2. Radiographic techniques.

EXPOSURE FACTORS

AP supine view	Bucky 40"/80 @ 90

3. Supplies. Use grid cassette for portable study/table top technique.

D. **PREPARATION REQUIRED:** N/A.

TAB C-14

LUMBOSACRAL SPINE

A. **STANDARD VIEWS:**

1. AP view.
2. Left lateral.
3. Coned L5/S1 (over 10 yrs only).
4. Obliques only if requested.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

(a) AP	11x14
(b) Left Lateral	11x14
(c) Obliques	11x14
(d) Spot L-5	8x10

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP	Bucky 40"/80 @ 40
(b) Left lateral	Bucky 40"/90 @ 75
(c) Obliques	Bucky 40"/85 @ 60
(d) Spot L-5	Bucky 40"/100 @ 120

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-15

MANDIBLE

A. **STANDARD VIEWS:**

1. PA view.
2. Low positioned townes.
3. Laterals.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

All views	10x12

2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA	Bucky/40"/70 @ 30
(b) Low position townes	Bucky/40"/70 @ 37.5
(c) Laterals	Bucky/40"/65 @ 15

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-16

MASTOIDS
(INTERNAL ACOUSTIC CANALS, ETC.)

A. **STANDARD VIEWS:**

Coned projections.

1. 2 Laws (lateral).
2. 2 Stenver's.
3. 2 Mayer's.
4. 1 Towne's.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

(a) 8x10 (all views) or,

(b) 10x12 (2 exposures for film).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) 2 Laws (lateral 15°)	Bucky 40"/68 @ 40
(b) 2 Stenver's	Bucky 40"/68 @ 15
(c) 2 Meyer's	Bucky 40"/68 @ 30
(d) 1 Towne's	Bucky 40"/68 @ 37.5

3. Supplies. Use cones or collimate.

D. **PREPARATION REQUIRED:** N/A.

TAB C-17

NASAL BONES

A. **STANDARD VIEWS:**

1. Waters view.

2. Both laterals.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

(a) Water	10x12
(b) Both laterals	8x10

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Water view	Bucky 40"/70 @ 45
(b) Both laterals	Bucky 40"/70 @ 45

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-18

NAVICULAR SERIES

A. **STANDARD VIEWS:**

1. PA view.
2. Lateral.
3. Oblique.
4. PA ulnar/radial deviation, clenched fist.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

   Two views on each 8x10 (3).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA view	Screen 40"/55 @ 3.3
(b) Lateral	Screen 40"/60 @ 3.3
(c) Oblique	Screen 40"/55 @ 3.3
(d) PA deviation view	Screen 40"/55 @ 3.3

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-19

ORBITS

A. **STANDARD VIEWS:**

1. Waters view (23° caudal tilt).
2. PA view.
3. Caldwell.
4. Rhese views (three-point landing).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.
   (a) 8x10 or,
   (b) 10x12.
2. Radiographic techniques.

EXPOSURE FACTORS

(a) Waters view	Bucky 40"/70 @ 45
(b) PA view	Bucky 40"/70 @ 37.5
(c) Caldwell	Bucky 40"/70 @ 37.5
(d) Rhese views	Bucky 40"/60 @ 10

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-20

PAETLLA

A. **STANDARD VIEWS:**

1. PA view.

2. Lateral.

3. Sunrise.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

l. Film size.

8x10 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA view	Bucky 40"/65 @ 7.5
(b) Lateral	Bucky 40"/65 @ 7.5
(c) Sunrise	Bucky 40"/65 @ 5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-21

RIB CAGE

A. **STANDARD VIEWS:**

1. AP view.

2. Oblique of injured site.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

(a) 14x17 (all views).

(b) Use 10x12 - lower 1/3 of rib cage (abdomen technique).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP view	Bucky 40"/60 @ 30
(b) Oblique of injured site	Bucky 40"/60 @ 30

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-22

SACRUM

A. **STANDARD VIEWS:**

1. AP with 15 degree cephalic tilt.

2. Lateral.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP with 15 degree cephalic tilt	Bucky 40"/70 @ 150
(b) Lateral	Bucky 40"/90 @ 100

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-23

SCAPULA

A. **STANDARD VIEWS:**

1. AP view.

2. Tangential lateral.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP view	Screen 40"/60 @ 10
(b) Tangential lateral	Screen 40"/60 @ 7.5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-24

SHOULDER

A. **STANDARD VIEWS:**

Note: For trauma - refer to TAB C-35.

AP view, with INT/EXT rotation with 5 degree tube tilt.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

AP view	Screen 40"/60 @ 10

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-25

SACROILIAC JOINTS

A. **STANDARD VIEWS:**

AP with 25 degree cephalad tilt (Ferguson view).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12.

2. Radiographic techniques.

EXPOSURE FACTORS

AP	Bucky 40"/80 @ 60

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-26

SKULL

A. **STANDARD VIEWS:**

Note: Trauma - refer to TAB C-36.

1. PA view.
2. Townes view.
3. Both laterals.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

   10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA view	Bucky 40"/70 @ 37.5
(b) Townes view	Bucky 40"/70 @ 37.5
(c) Both laterals	Bucky 40"/70 @ 20

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-27

SINUS

A. **STANDARD VIEWS:**

All views taken in upright position.

1. Waters view.
2. Caldwell view.
3. Sub-mental vertex.
4. Lateral.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

   8x10/10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Waters view	Bucky 40"/70 @ 45
(b) Caldwell view	Bucky 40"/70 @ 45
(c) Sub-mental vertex	Bucky 40"/70 @ 50
(d) Lateral	Bucky 40"/60 @ 20

3. Supplies. Collimate or use covers.

D. **PREPARATION REQUIRED:** N/A.

TAB C-28

STERNUM

A. **STANDARD VIEWS:**

1. Lateral.

2. Right anterior oblique.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Lateral	Bucky 40"/60 @ 45
(b) Right anterior oblique	Bucky 40"/60 @ 150

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-29

THORACIC SPINE

A. **STANDARD VIEWS:**

1. AP view.
2. Lateral.
3. Spot lateral (C-7/T-1 junction) if requested.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

(a) AP	14x17
(b) Lateral	14x17
(c) Spot	10x12

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP view	Bucky 40"/80 @ 40
(b) Lateral	Bucky 40"/80 @ 150
(c) Spot lateral	Bucky 40"/80 @ 120

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-30

CERVICAL SPINE (TRAUMA)

A. **STANDARD VIEWS:**

1. Spine board; cross table lateral (Do first and show to M.D.).

2. Odontoid view.

3. Routine views.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) X-table lateral (40")	Grid 40"/70 @ 10
(b) Odontoid	Bucky 40"/70 @ 40

(c) Do routine views if o.k., (refer to TAB C-6.)

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-31

ELBOW (TRAUMA)

A. **STANDARD VIEWS:**

1. Both obliques.

2. Routine views.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (two exposures in one film).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP	Screen 40"/55 @ 5
(b) OBL	Screen 40"/55 @ 5
(c) LAT	Screen 40"/55 @ 5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-32

KNEE (TRAUMA)

A. **STANDARD VIEWS:**

1. AP view.

2. Lateral.

3. Both obliques.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP view	Screen 40"/65 @ 5
(b) Lateral	Screen 40"/65 @ 5
(c) Both obliques	Screen 40"/70 @ 7.5

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-33

FACIAL BONES (TRAUMA)

A. **STANDARD VIEWS:**

1. Zygomatic arch in region of trauma.

2. Routine views.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

8x10/10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

Zygomatic arch	Screen 40"/65 @ 12
routine views (refer to TAB C-11)	

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-34

HIPS/PELVIS (TRAUMA)

A. **STANDARD VIEWS:**

1. O.R. lateral instead of froglegs view.

2. Routine AP views.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) X-table lateral	Bucky or Grid 40"/76 @ 150
(b) AP views	Bucky or Grid 40"/80 @ 40

3. Supplies. Grid cassette, film holder, tape.

D. **PREPARATION REQUIRED:** N/A.

TAB C-35

SHOULDER (TRAUMA)

A. **STANDARD VIEWS:**

1. Axillary or scapular view.

2. Routine views.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Axillary	Screen 40"/65 @ 5
(b) AP	Screen 40"/65 @ 25

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-36

SKULL (TRAUMA)

A. **STANDARD VIEWS:**

1. AP view instead of PA.

2. Cross table lateral (if patient not erect).

3. Lateral.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

10x12 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP	Bucky or Grid 40"/70 @ 37.5
(b) Lateral	Bucky or Grid 40"/70 @ 20

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-37

INTERNAL AUDITORY CANALS

A. **STANDARD VIEWS:**

1. PA.
2. Towne's.
3. Stenvers.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.
   (a) PA - 10x12.
   (b) Towne's - 10x12.
   (c) Stenvers (bilat) - 10x12 (two exposures in one film).
2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA	Bucky 40"/70 @ 37.5
(b) Towne's	Bucky 40"/70 @ 37.5
(c) Stenvers	Bucky 40"/70 @ 30

3. Supplies. Use cover or collimate.

D. **PREPARATION REQUIRED:** N/A.

TAB C-38

OPTIC CANAL VIEWS
(USE GRID)

A. **STANDARD VIEWS:**

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

8x10.

2. Radiographic techniques.

EXPOSURE FACTORS

Oblique (Reese) Bucky 40"/70 @ 15

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-39

OBLIQUE (AXIAL OF CANAL)

A. **STANDARD VIEWS:**

In view of wide individual anatomical variations, angles given should be varied when necessary. Canal should be projected symmetrically in lateral inferior quadrant of orbit. Exactly 40" AFD; PA position (orbito-meatal plane perpendicular to film). Forty degree rotation of head to side being examined, with perpendicular orbito-meatal plane. Caudal angulation of central ray; 22 degree angulation of central ray to Reid's base line; (or 30 degree caudal angulation of central ray to orbito-meatal base line.

NOTE: In children 4-10 years, reduce caudal angulation 5 degrees. In children 0-4 years, reduce caudal angulation 10 degrees.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

8x10 or as needed.

2. Radiographic techniques: Use starting scout technique.

EXPOSURE FACTORS

Oblique	Bucky 40"/70 @ 30

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-40

JUGULAR FORAMEN

A. **STANDARD VIEWS:**

1. Coned projection.

Sub-axial: 70 degree extension of Reid's base line as in petrous ridge. (Three-point landing)

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

8x10 (all views) two views on each film.

2. Radiographic techniques.

EXPOSURE FACTORS

Sub-axial	Bucky 40"/70 @ 30

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-41

SELLA

A. **STANDARD VIEWS:**

1. Coned lateral.

(a) One film centered to sella (2.0 cm above and anterior to EAM).

(b) PA, 15 degrees cranial beam angulation relative to CML.

(c) Magnification - if desired by radiologist.

(d) Tomography - if desired by radiologist.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

8x10 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Lateral (coned)	Bucky 40"/65 @ 20
(b) Caldwell's	Bucky 40"/70 @ 37.5

(c) Tomography (use Starting Scout Technique)

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-42

ZYGOMATIC ARCH

A. **STANDARD VIEWS:**

1. 35 degree AP half axial (Towne's) with decreased exposure.

2. Full axial with head tilted to give tangential view of malar bone and zygomatic arch (optional).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

8x10 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Townes - Half axial (decreased exposure)	Bucky 40"/70 @ 37.5
(b) Full axial (SMR) Tangential)	Screen 40"/64 @ 12

3. Supplies. N/A.

D. **PREPARATION REQUIRED:** N/A.

TAB C-43

TEMPOROMANDIBULAR JOINTS

A. **STANDARD VIEWS:**

1. Lateral, 15 degree caudal angulation beam.

   (a) Mouth closed (bilateral).

   (b) Mouth open (bilateral).

2. Twenty-five degree AP half axial (Townes).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

   8x10 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Lateral (open/closed)	Bucky 40"/65-70 @ 25
(b) Townes	Bucky 40"/70 @ 37.5

3. Supplies. Use cover or collimate.

D. **PREPARATION REQUIRED:** N/A.

TAB C-44

BARIUM ENEMA

A. **STANDARD VIEWS:**

1. Indications (air contrast all) except:.

(a) Unable to cooperate.

(b) Colostomy.

(c) R/O obstruction.

(d) Peds - consult with radiologist.

(c) Acute diverticulitis.

2. Single contrast.

(a) AP.

(b) RPO.

(c) LPO.

(d) Angle sigmoid (upshot supine).

(e) Lateral rectum.

(f) Post evacuation to be taken AP after approval of above views.

3. Air contrast.

(a) PA.

(b) AP.

(c) RPO.

(d) LPO.

(e) R & L decubitus.

(f).Prone rectosigmoid (downshot) without balloon.

(g) Prone cross-table lateral of rectum without balloon.

4. Plain film of abdomen (Scout)--Prior to barium enema, shown to physician with request to ascertain whether single or double contrast enema to be done.

(a) On day when gallbladder is scheduled.

(b) Prior to small bowel follow through or after IVP.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP	Bucky 40"/110 @ 30
(b) Obliques (RPO/LPO)	Bucky 40"/110 @ 45
(c) Sigmoid	Bucky 40"/110 @ 45
(d) Lateral	Bucky 40"/110 @ 150
(e) Post evac	Bucky 40"/80 @ 60
(f) Decubitus (air contrast)	Bucky or Grid 40"/80 @ 45

3. Supplies.

(a) BE prep kit.

(b) BE bags c mixed BED (acc. to manufacturer's recommendations).

(c) Colostomy tips (if needed).

(d) Air contrast BE kit.

(e) KY jelly (lubricant).

D. **PREPARATION REQUIRED:** (None for emergency studies.)

1. Two days prior to examination:

(a) Breakfast menu - light fat-free diet (no butter, or coffee or milk, no bran-type cereals). You may some of the following: Toast - Plain, decaffeinated coffee, decaffeinated tea, Jello - plain - any flavor, Non-pulpy unsweetened juices: apple juice, grapefruit juice, orange juice, tomato juice

(b) Lunch Menu: Clear soups (chicken broth or beef bouillon), Clear liquids (juices, as above), Jello (plain)

(c) Dinner Menu: Same as Lunch Menu

2. Day before examination.

(a) 7:30 a.m. take two (2) Senokot-S tablets with 8 oz. of water.

(b) 8:00 a.m. - Breakfast - Eat a light fat-free diet, See suggested diet (previous day).

(c) Between 9:00 and 10:00 a.m., drink at least 20 oz. of water.

(d) Noon - Lunch - Clear liquids, clear soups, PLAIN Jello. (See suggested diet previous day)

(e) 3:00 p.m. - Drink bottle of x-prep liquid.

(f) 5:00 p.m. - Drink - liquids only. (See suggested diet.)

(g) Between 9:00 p.m. and 10:00 p.m., drink at least 20 oz. of water. Nothing after 10:00 p.m.

3. Day of examination:

(a) Omit breakfast - Drink 8 oz. of clear liquid (as described above) on rising. Also at this time:

(b) Use rectolax TM suppository. Remove foil wrapping from suppository. Lie on left side. Insert the suppository as high as possible in rectum, making sure it touches the wall of rectum. Wait 15 minutes before evacuating, even if urge is strong.

TAB C-45

SMALL BOWEL (ENTEROLYSIS) SBFT

A. **STANDARD VIEWS:**

1. Small bowel follow through--prone PA each 15 minutes X2 until directed by Radiologist.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size.

14x17.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Scout - AP ABD Bucky 40"/80 @ 60

(b) PA ABD (prone) Bucky 40"/80 @ 60

3. Supplies.

(a) BA solution.

(b) Gastrografin - small bowel obstruction.

D. **PREPARATION REQUIRED:**

1. Clear liquids day before exam. Nothing after midnight.

TAB C-46

G.I. SERIES (UGI)

A. **STANDARD VIEWS:**

1. Gallbladder - plain film only.
2. AP.
3. PA.
4. LPO.
5. R Lat.
6. Views to replace above upon notification of horizontal stom.
7. AP 30 degree caudal.
8. PA 30 degree ceph.
9. R lateral (no angulation).
10. LAO 30 degree caudal.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.
2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP - ABD (Scout)	Bucky 40"/80 @ 60
(b) AP/PA	Bucky 40"/110 @ 20
(c) Obliques	Bucky 40"/110 @ 25
(d) Lateral	Bucky 40"/110 @ 40

3. Supplies.
   (a) BA solution.
   (b) Gastrografin - bowel obstruction or rule out perforation.

D. **PREPARATION REQUIRED:**

1. If examination follows within a day or two of a barium enema, a cathartic (such as 4 tablespoons of milk of magnesia in half a glass of water) should be taken on the evening before the stomach is examined.

2. A light supper on the evening before examination. NPO past midnight. No smoking or brushing of teeth on A.M. of exam.

TAB C-47

BARIUM SWALLOW
(ESOPHAGRAM)

A. **STANDARD VIEWS:**

1. PA chest - Scout.

2. 2 obliques prone 45 degrees R & L.

3. Additional views upon request only (PA prone and lateral).

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. 14x17 (all views).

2. Radiographic techniques.

EXPOSURE FACTORS

(a) PA chest (upright)	Bucky 40"/80 @ 10
(b) Oblique	Bucky 40"/80 @ 15
(c) PA	Bucky 40"/80 @ 10
(d) LAT	Bucky 40"/90 @ 20

3. Supplies.

1 barium solution.

D. **PREPARATION REQUIRED:** N/A.

TAB C-48

T-TUBE CHOLANGIOGRAM

A. **STANDARD VIEWS:**

1. Overhead films - coned to right upper quadrant (Scout).

2. Supine RPO inject 2-3 cc immediately prior to film.

3. AP: Inject 2-3 cc immediately prior to film.

4. Post-draining film.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Scout - AP	Bucky 40"/80 @ 60
(b) Oblique	Bucky 40"/86 @ 60
(c) Post-draining film	Bucky 40"/80 @ 60

3. Supplies.

(a) Contrast medium as prescribed by Radiologist.

(b) Clamp.

(c) Syringes/needles/alcohol swabs.

D. **PREPARATION REQUIRED:** (Prior to exam - none.)

1. Must attempt to achieve air-free fluid filled system.

2. Avoid excessive pressure and overfilling (danger of retrograde infection).

3. Sterile precautions.

(a) Patient on left side, right side up with drainage tube hung up so bile drains.

(b) Into T-tube, as close as possible, insert a scalp vein needle or small bore needle connected to a contrast-filled syringe via a straight plastic tube leader. Normally a 1:2 dilution of Renographic 60 or Hypopaque 50 will provide adequate contrast.

(c) Clamp the T-tube distal to the point of needle insertion with a hemostat. Also, clamp over the needle itself with another hemostat.

(d) With syringe slightly elevated, aspirate bile and allow any air bubbles to rise to the top of the fluid level in the syringe. Tapping the tube will help

occasionally. Air bubbles may ruin the examination.

(e) Allow the contrast to run in by gravity or, if necessary inject slowly and in small increments, obtaining sequential spot films.

TAB C-49

IVP STANDARD

A. **STANDARD VIEWS:**

1. At the request of the radiologist.

2. Patient supine.

3. Post void - erect if possible.

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) Scout KUB Bucky 40"/80 @ 60

(b) Post-void Bucky 40"/80 @ 60

3. Supplies: Consult duty radiologist. Generally 1/2 cc/lb provides optimum contrast. Neonates and young children present a special problem and dose should be determined by the radiologist.

(a) Renografin 60%.

(b) Hypaque 50%.

(c) 50 cc syringes/needles/alcohol swabs.

(d) Infusion set.

D. **PREPARATION REQUIRED:** N/A.

TAB C-50

PORTABLE STUDIES

A. **STANDARD VIEWS:**

1. AP C.

2. KUB.

3. Lateral decubitus (must position patient on left side for 15 minutes prior to exposure.

4. AP Pe.

5. Lateral cervical spine. (Do cross-table neck first.)

B. **METHOD OF REQUEST:**

SF 519A.

C. **EQUIPMENT, SUPPLIES, AND RADIOGRAPHIC TECHNIQUES:**

1. Film size. As needed.

2. Radiographic techniques.

EXPOSURE FACTORS

(a) AP chest	Screen 72"/76 @ 3.2
(b) KUB	Grid 40"/80 @ 60
(c) Lateral decubitus	Grid 40"/80 @ 45
(d) AP pelvis	Grid 40"/80 @ 30
(e) X-table LAT	
(1) C-spine	Screen 72"/70 @ 10
(2) T-spine	Grid 40"/120 @ 50
(3) L-spine	Grid 40"/90 @ 90
(f) C-spine - AP	Screen 40"/70 @ 7.5
(g) Skull - AP	Screen 40"/80 @ 10
- LAT	Screen 40"/70 @ 7.5

3. Supplies.

(a) Grid cassettes.

(b) Film holder.

(c) Sponges.

(d) Tapes.

D. **PREPARATION REQUIRED:** N/A.

TAB C-51

REACTION TO MEDICAL EMERGENCIES

A. **PURPOSE:** To establish the protocol to react to medical emergencies.

B. **DEFINITION:** Medical emergency is a situation causing a life threatening condition that requires immediate medical attention to sustain life.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Equipment.

(a) Crash cart.

(b) Litter with blankets.

2. Supplies.

(a) As provided on crash cart.

(b) As requested by attending physician.

3. Forms.

Chronological Record of Patient Care (SF 600).

D. **CRITERIA:**

1. All equipment properly supplied and functional.

E. **STEPS:**

1. Shock.

(a) Lie patient down with feet elevated.

(b) Keep patient warm.

(c) Notify medical officer.

2. Hemorrhage.

(a) Apply direct pressure to area.

(b) Notify medical officer.

3. Pulmonary arrest.

(a) Establish airway.

(b) Give mouth-to-mouth.

4. Cardiopulmonary arrest.

(a) Establish airway.

(b) Start CPR.

(c) Notify medical officer.

(d) Call code

5. Obstructed airway.

(a) Clear mouth.

(b) Four blows back, four ABD thrusts until airway opens.

(c) Notify medical officer.

6. Emergency procedure for adverse reaction to contrast agents.

(a) With hives (urticaria), erythema, itching, or angioedema, notify attending physician.

(b) With the above and dyspnea (difficulty in breathing).

(1) Call for help immediately.

(2) Apply a tourniquet above the injection site to impede venous and lymphatic flow, but not arterial circulation.

(3) Protect airway, suction as needed.

(4) O_2 high flow (10-15 L/min), by reservoir mask.

(5) Patient should be supine with legs elevated unless respiratory distress predominates.

(6) Assist the physician or nurse with the following:

a Start large bore IV with NS TKO.

b Epinephrine O.5 mg 1:1000 SQ in opposite arm.

c Benadryl 50 mg IV push by physician.

d With BP less than 80 and patient critical.

(1) IV NS wide open.

(2) Epinephrine 1:10,000 0.2mg to 0.3 mg may be given very slowly IV push by physician.

(3) Benadryl 50 mg IV push by physician.

Transport to Casualty Receiving as soon as possible for further definitive care.

7. Simple fainting.

(a) Lie patient down.

(b) Keep warm.

(c) Notify medical officer.

TAB C-52

RECALL STAFF

A. **PURPOSE:** To provide a system for the PM crew to recall off-duty personnel.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

Departmental Watch Bill.

D. **CRITERIA:**

Additional staff is sufficiently augmented to meet increased patient load.

E. **STEPS:**

1. Senior Technologist of PM watch will initiate recall when:
   (a) Turn around time exceeds 30 minutes.
   (b) Directed by higher authority.
2. The recall will be:
   (a) Limited to the number of augmentees actively required.
   (b) Reported to the Duty Radiologist.
3. On call personnel will:
   (a) Respond as quickly as possible.
   (b) Report to Senior Technologist.

TAB C-53

RADIOLOGY DEPARTMENT DAY LOG

A. **PURPOSE:** To provide a sequential, chronological, legal record of radiological procedures performed.

B. **DEFINITION:** A hard-bound log (record book) containing the minimum essential information required to identify patients X-rayed.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

Standard record book.

D. **CRITERIA:**

1. Log must be updated frequently to ensure that a current record of x-ray procedures is readily available.

2. At a minimum, it will be updated before the watch LPO is relieved.

E. **STEPS:**

1. The front cover must be marked with the Fleet Hospital Unit Identification Code (UIC), the title "Radiology Day Log," and the date of initial entry.

2. Each set of facing pages will be divided into vertical columns. Columns will be labeled IAW TAB -.

3. Register numbers correspond with numbers assigned to SF 519A and are entered at the time that the 519A is delivered to Radiology.

4. The log will be closed and procedures summarized at 2400 each day. Draw a double horizontal line beneath the last entry, and enter new date

5. When the log is full, it will be closed by marking the date of the last entry on the front cover.

6. All logs will be maintained in the Radiology Department.

F. **RESPONSIBILITY:**

Watch LPO.

TAB C-54

FILM IDENTIFICATION

A. **PURPOSE:** To describe procedures to properly identify radiographs.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Equipment.

   Film I.D. printer (6525-LL-000-0059).

2. Supplies.

   Exposed x-ray films.

3. Forms.

   3x5 card with TAB - information.

D. **CRITERIA:**

Proper identification of x-ray films.

E. **STEPS:**

1. The X-ray Technologist will:

   (a) Type/print on a 3x5 card the following information:

      (1) Fleet Hospital Unit #.

      (2) Patient's name - last, first, middle initial.

      (3) Patient's rank/rate.

      (4) Patient's register number.

      (5) Date.

      (6) Date of birth.

      (7) Age.

      (b) Flash all films with the proper patient identification.

      (c) Ensure the correct anatomical marker was employed.

      (d) Retain flash card in cross reference file.

TAB C-55

QUALITY CONTROL OF FILM

A. **PURPOSE:** Identify measures to evaluate output quality.

B. **DEFINITION:** Quality control determines if an x-ray meets set standards.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:** N/A.

D. **CRITERIA:**

The best diagnostic film is available for interpretation.

E. **STEPS:**

1. The Watch LPO is responsible for quality control. He will:

(a) Inspect and insure that all films have:

(1) Proper I.D.

(2) The area of interest as requested on 519A.

(3) Correct anatomical markers and positioning.

(4) Proper contrast and density.

(5) No loss of detail from motion.

(b) Pass all excepted films or require an additional view.

(c) Initial the x-ray film for all films passed.

(d) Prepare films for interpretation by Radiologist.

(e) Make jacket for new patient or use old jacket returned by patient.

(f) Incorporate any loose films that arrive with new patients.

(g) Record all exams performed on x-ray jacket.

(h) Place all unread films with 519A for interpretation.

(i) Film interpretation by radiologist.

(j) Distribute completed 519A (original to patient; copy to files).

F. **RESPONSIBILITY:**

LPO of the watch or designated personnel.

TAB C-56

FLUOROSCOPIC SCHEDULE/REPORT

A. **PURPOSE:** Maintain a systematic schedule of patients for fluoroscopic studies.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Equipment.

(a) Log book.

(b) Fluoroscopic Schedule/Report TAB .

D. **CRITERIA:**

1. Exams requested are properly screened and approved by a radiologist.

2. Patients are given complete verbal/written instructions.

3. Patients are given appropriate preparation kits for each exam requested.

E. **STEPS:**

Scheduling Technician will:

l. Obtain Radiologist approval (initials on 519A).

2. Prepare patient IAW TABs C-1 through c-54 or as directed by Radiologist.

3. Schedule on Fluoroscopy Schedule (See TAB).

4. Provide proper prep and directions (verbal and written).

5. Notify nursing staff of the scheduled exam.

6. Answer any questions patient might have.

TAB C-57

AUTOMATIC PROCESSOR FILM SOLUTIONS

A. **PURPOSE:** To identify the type of chemistry being used and proper concentrations.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Equipment.

Chemistry tanks.

2. Supplies.

(a) DEV X-R Kod UNSPD ZOGAL(6525-00-975-0611).

(b) FIX X-R UN SPD ZOGAL(6525-00-975-0612).

(c) Water source.

3. Forms.

Manufacturer's pre-printed instructions

D. **CRITERIA:**

Chemicals are mixed properly and in correct concentrations.

E. **STEPS:**

1. Developer Kodak 20 gal univ mix.

(a) Mix according to package instructions.

(b) Add recommended amount of starter.

(c) Verify replenishment rate.

(d) Replenish solution as need.

2. Fixer Kodak 20 gal univ mix.

(a) Mix according to package instruction.

(b) Verify replenishment rate.

(c) Replenish solutions as needed.

(d) Retain all used fixer for silver reclamation unless directed by higher authority.

3. Do not empty the solutions in the processor unless they become contaminated, developer becomes exhausted, or required by manufacturer's instruction.

TAB C-58

EMERGENCY CARDIO RESUSCITATION KIT

A. **PURPOSE:** To provide appropriate supplies/equipment needed during emergency situations.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Emergency Cardio Resuscitation Kit (Sparks Kit).

2. Emergency Kit Inventory List.

3. Departmental Log.

D. **CRITERIA:**

1. Emergency Cardio Resuscitation Kit is readily accessible.

2. Kit is completely stocked and inventoried, if seal is intact.

3. Oxygen cylinders and seals on Emergency Cardio Resuscitation Kit are checked daily.

E. **STEPS:**

1. Emergency Cardio Resuscitation Kit will be located in the Radiology Support Area at all times. It will be used only for cardio resuscitative bonifide emergencies.

2. Billet no. 78050.00 will check to ensure seals have not been broken, and oxygen pressure is sufficient in cylinders, that is not less than 500 psi.

3. Inventory emergency Cardio Resuscitation Kit every three months or when seals have been broken.

4. Post drug expiration dates on the Emergency Kit Inventory List on cart and checked daily.

5. Make appropriate entries in the Departmental Log.

6. Billet no. 78050.00 will be responsible for re-supplying cart during normal working hours. The watch LPO assumes this responsibility at other times.

F. **RESPONSIBILITY:**

Senior Technician or his representative.

TAB C-59

DEPARTMENTAL REPORTING REQUIREMENTS

A. **PURPOSE:** To establish what, where, when and whom.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Forms.

NAVMED 6300/1 Medical Services and Outpatient Morbidity Report.

D. **CRITERIA:**

Report is submitted accurately and on time.

E. **STEPS:**

1. Medical Services and Outpatient Morbidity Report (NAVMED 6300/1)

(a) Report to be submitted by 1200 1st working day after last day of month.

(b) Report to include:

(1) Number of visits.

a For each Branch of Service.

b For inpatients/outpatients.

c Grand totals.

(2) Number of exams.

a Routine.

b Fluoroscopic.

c Grand totals.

(3) Number of exposures.

a Routine.

b Fluoroscopic.

c Grand totals.

(c) Distribution.

(1) Original to Patient Affairs.

(2) Copy to Radiology general files.

(d) Information.

Collected from Radiology Day Log (see TAB G-4).

TAB C-60

MAINTENANCE OF RADIOLOGY GENERAL FILES

A. **PURPOSE:** To provide a system for maintaining radiology general files.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:** N/A.

D. **CRITERIA:**

1. Forms are filed in sequence - file number and chronological order.

2. Documents are easily retrievable.

E. **STEPS:**

1. The senior enlisted person will:

(a) Assure all correspondence, message traffic and other files are maintained IAW SECNAVINST 5210.11C Standard Subject Identification Codes.

(b) Maintain any other file as directed by Head, Radiology Department.

2. At a minimum, the file will contain:

(a) Departmental logs.

(b) Day logs.

(c) STAT request logs.

(d) Maintenance requests.

(e) Supply requests.

(f) Watch bills.

(g) Fluoroscopic schedules/reports.

(h) Morbidity reports.

(i) Notices/instructions.

F. **RESPONSIBILITY:**

Senior HM.

TAB C-61

MANUAL FILM PROCESSING

A. **PURPOSE:** Provide a backup system for film developing in case of automatic processor failure.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Equipment.

(a) Film hangers.

(b) Timer.

(c) Thermometer.

(d) Chemical tanks.

2. Supplies.

(a) Exposed film.

(b) Chemicals.

D. **CRITERIA:**

Films are technically satisfactory.

E. **STEPS:**

1. The Technologist:

(a) Remove the developer fixer and wash roller racks from the automatic processor.

(b) Attach exposed film to appropriate size film hanger.

(c) Develop films by dipping them into developer tank for approximately 5 minutes with developer temperature at 68°F or 20°C.

(d) Fix films by dipping them into the fixer tank until they have cleared. The time required varies with fixer age, and the number of films being fixed. The fixer temperature should be between 65° to 75°F or 18° to 24°C.

(e) Wash all film in wash tank of automatic processor.

(f) Hang films to dry.

2. Radiologist may make a wet reading after the film(s) have been washed approximately 2 minutes.

TAB C-62

RADIATION PROTECTION

A. **PURPOSE:** To identify standards of staff and patient radiation protection.

B. **DEFINITION:** A safety program to oversee and control the use of ionizing radiation to both staff and patients.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:** N/A.

D. **CRITERIA:**

Ensure that:

l. The operator is adequately trained in the safe and proper operation of the equipment.

2. The operator is familiar with the potential hazards associated with the equipment.

3. Radiographic techniques achieve desired objectives with minimum patient dose.

4. Proper gonadal shielding is provided.

E. **STEPS:**

1. When employing fixed radiographic equipment the operator will:

(a) Use the maximum source - skin distance.

(1) Distances less than 12 inches shall not be used.

(2) Distances less than 15 inches should not be used.

(b) Stand behind a suitable barrier.

(c) Wear a lead apron when holding a patient for an exam.

(d) Avoid the direct beam when holding a patient.

(e) Exercise particular care when radiographing females of childbearing age or minors. Remember to shield gonadal areas.

(f) Use other available attendants to hold patients in position whenever possible, since x-ray Techs are continually exposed to radiation sources.

(g) Use special precautions consistent with clinical needs, to minimize gonadal exposure.

2. When employing mobile (portable) radiographic equipment the operator will:

(a) Use only for examinations where it is impractical to transfer patients to permanent radiographic installations.

(b) Stand as far as possible, at the minimum six feet from:

(1) The patient.

(2) The tube.

(3) The useful beam.

(c) **ALWAYS** wear a lead apron or stand behind suitable shield.

3. When employing fluoroscopic equipment the operator will:

(a) Obtain authority from the Radiologist prior to other qualified physicians operating the fluoroscopic unit.

(b) Permit only those personnel whose presence is required, in fluoroscopic room during x-ray exposure.

(c) Ensure that the room is sufficiently darkened before fluoroscopic procedures begin.

(d) Ensure that the radiologist's eyes are adapted to darkness before fluoroscopic procedures begin.

(e) Wear protective aprons.

(f) Avoid placing hands in the useful beam unless the beam is attenuated by the patient and a lead glove is worn.

(g) Assist in performing fluoroscopic examinations under the direct supervision of a radiologist.

(h) Use the smallest practical field size and the shortest exposure time.

(i) Observe precautions, consistent with the clinical needs to minimize gonadal exposure.

(j) Ensure that exposure rates are minimal, consistent with fluoroscopic requirements. When using image intensifier equipment with or without television cameras or conventional (direct viewing) fluoroscopy, exposures shall not exceed 10R/minute and should not exceed 5R/minute (measured in Air) at the position where beams enter the patient.

TAB C-63

PORTABLE X-RAY

A. **PURPOSE:** To set standards for radiographic portable examinations and proper operation of a portable machine.

B. **DEFINITION:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. A portable x-ray unit.

2. Cassettes for requested exam.

3. SF 519A appropriately completed.

D. **CRITERIA:**

1. Ordered by a physician.

2. Properly filled out SF 519A.

(a) History pertaining to exam ordered.

(b) Legible physician signature.

(c) Complete patient identification.

E. STEPS:

1. Nursing Service personnel.

(a) Submit a SF 519A Radiographic Request for each portable requested (may be used for multiple exams ordered for the same patient).

(b) Call emergency (STAT) portables to the Radiology Department and a tech will be sent. Emergency (STAT) portables will be performed in the following priority.

(1) Operating Room.

(2) Casualty Receiving.

(3) ICUs.

(c) Send all other 519A's to Radiology.

(d) Assist the x-ray tech to place the film and position the patient.

2. The Control Desk watch will enter the appropriate data in the STAT Request Log.

3. The X-ray Tech will:

(a) Respond immediately to all STAT requests in the following order:

(1) Operating Room.

(2) Casualty Receiving.

(3) ICUs.

(b) Take the appropriate cassettes, and grids to obtain the exam(s) requested.

(c) Obtain assistance from Nursing personnel in:

(1) Moving the patient.

(2) Positioning the patient.

(3) Holding the film if needed.

(d) Announce "Ready to make an exposure" prior to making an exposure, wait for personnel to clear. Then and only then, announce"Making x-ray exposure." When finished state, "Exposure completed."

(e) Bring film back to X-ray Department, develop, identify and prepare for interpretation.

F. **RESPONSIBILITY:**

All X-ray Technologists.

TAB C-64

PORTABLE LOG

A. **PURPOSE:** To provide sequential, chronological, legal record of portable radiological procedures performed.

B. **DEFINITION:** A hard-bound log (record book) containing the minimum essential information required to identify where portable x-rays are being performed.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

Standard record book.

D. **CRITERIA:**

1. Log must be updated frequently to ensure that a current record of portable x-ray procedures is readily available.

2. At a minimum, it will be updated before the Watch LPO is relieved.

E. **STEPS:**

1. The front cover must be marked with the Fleet Hospital Unit Identification Code (UIC), the title, "Portable Log," and the date of initial entry.

2. Each page will be divided into vertical columns. Columns will be labeled IAW TAB .

3. The log will be closed and procedures summarized at 2400 each day.

4. When the log is full, it will be closed by marking the date of the last entry on the front cover.

5. All logs will be maintained by the Radiology Department.

F. **RESPONSIBILITY:**

Watch LPO.

TAB C-65

CASUALTY WITH UNEXPLODED ORDNANCE EMBEDDED

A. **PURPOSE:** To provide guidance in admitting, processing, and treating a casualty who has unexploded ordnance embedded in a body part.

B. **DEFINITION:** An explosive device (most often from a rifle grenade fired at close range) which has not traveled sufficient distance for fuse detonation and explosion, and is embedded in the body of a casualty.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Sandbags.

D. **CRITERIA:**

1. Sandbags will be stored outside Casualty Receiving Area.

2. Ordnance removed from the casualty's body without detonation.

3. Ordnance removed from the hospital environment without detonation.

4. Ordnance disposed of safely.

E. **STEPS:**

1. Prepare sandbags.

(a) Casualty Receiving Senior Corpsman is responsible for filling bags with sand and storing bags in a sheltered area outside Casualty Receiving.

(b) Prepare sandbags when setting up area.

2. Care of casualty with unexploded ordnance.

(a) Place casualty in area removed from other casualties and personnel.

(1) Keep casualty outside, if possible.

(2) If inside, stack sandbags around the casualty.

(3) Have absolute minimum of personnel near casualty.

(b) Call Security and have them summon an explosive ordnance disposal expert.

(c) Upon determination of what the ordnance is, take additional safety precautions as determined by the attending surgeon in conjunction with the explosive ordnance disposal expert.

(d) Prepare casualty for removal of ordnance as soon as practicable. If in the OR, stack sandbags around the casualty and immediate operating personnel. All other personnel remain outside the perimeter of sandbags.

(e) Tag inpatient record chart to alert other personnel to the presence of unexploded ordnance prior to transfer from initial intake point.

(f) After removal of the unexploded ordnance, give it to the explosive ordnance disposal expert, who will then dispose of the ordnance in a safe and appropriate manner.

F. **RESPONSIBILITY:**

1. Casualty Receiving Senior Corpsman.
2. Admitting clerk.
3. Surgeon.
4. Explosive ordnance disposal expert.

TAB C-66

PATIENT PROCEDURES FOR HANDLING EXPATRIATED PRISONERS OF WAR

A. **PURPOSE:** To detail patient handling procedures for expatriated prisoners of war within the fleet hospital.

B. **DEFINITION:**

1. Expatriated prisoners of war (EPW) - those patients who require treatment who are prisoners of U.S. or allied combat forces.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Restraints (theater command military police or hospital issue).

2. Others as specified in admission procedures (all forms will be marked with the words "Prisoner of War" or "EPW").

D. **STEPS:**

1. Upon presentation of EPW to functional area, notify Security Department.

2. Upon admission to Casualty Receiving, Security will be responsible for the following notifications:

(a) Theater command military police (MP) headquarters.

(b) Executive Officer.

(c) Director of Nursing.

(d) Director of Administration.

3. Perform essential life saving care.

4. Inform MP that custody of patient will not be assumed by hospital staff and that MP will retain custody of EPW until relieved by appropriate MP headquarters staff or patient is transferred to EPW holding center (external to hospital).

5. After treatment, have corpsman or litter bearer escort MP and EPW to next functional area charge nurse. Admissions packet, correctly annotated will be delivered by hand to charge nurse.

6. During course of treatment, patient will be guarded by MP and/or restrained until treatment is terminated.

7. Movement to another functional area will be reported to Security.

8. EPW's will be fed either on the ward or in the general mess. If allowed to eat in the general mess, EPW's will be accompanied by MP guards.

E. **RESPONSIBILITY:**

CMAA/Security.

TAB C-67

PROCEDURE FOR PICK-UP AND DELIVERY OF HOSPITAL LAUNDRY

A. **PURPOSE:** It will be logistically impossible to pick up and deliver laundry at each individual ward and CSR. Therefore, this procedure establishes central collection points and the methodology for preparing laundry for turn-in.

B. **DEFINITIONS:** N/A.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Canvas laundry bags.

2. Request for clean linen/laundry.

D. **CRITERIA:** N/A.

E. **STEPS:**

1. Designated Laundry Petty Officer will:

(a) Set up laundry bags, tagging one for bed linen, one for clothing (including patient clothing), and one for contaminated laundry.

(b) Daily at 0800, take the soiled laundry to the nearest Clinical Work Space along with a request for the next day's linen/laundry supply.

(c) Distribute cleaned patient clothing.

2. Linen Control Clerks will:

(a) Pick-up and receipt for hospital laundry at each Clinical Work Space.

(b) Collect Requests For Clean Linen/Laundry.

(c) Fill requests submitted the previous day and return cleaned patient clothing.

TAB C-68

PROCEDURE FOR HANDLING AND LAUNDERING CONTAMINATED LINENS

A. **PURPOSE:** The Combat Zone Fleet Hospital will generate a significant amount of contaminated linen within the operating rooms and treatment wards. These items will require special handling and laundering to prevent the spread of infection.

B. **DEFINITION:** Contaminated laundry is defined as those items requiring special disinfection and laundering to preclude the spread of infection.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:**

1. Chlorine bleach solution.

2. Latex gloves.

D. **CRITERIA:** N/A.

E. **STEPS:**

1. Hospital ward personnel will bag contaminated laundry separate from regular laundry. Gloves are to be worn when handling contaminated laundry.

2. Contaminated laundry will be receipted by the Linen Control Clerks and delivered to the laundry.

3. At the Laundry all contaminated laundry will be segregated from that requiring only routine processing.

4. Based on the next day's requirements and current inventory the contaminated laundry will be assigned a processing priority.

5. The contaminated laundry will be processed as follows:

(a) Presoak the contaminated laundry for 60 minutes in a chlorine solution of 50 ppm.

(b) Wash the linen in hot water using a normal cycle.

6. Once laundered these items will be placed in inventory for re-issue.

F. **RESPONSIBILITY:**

The Head, Environmental Health Department is responsible for routinely monitoring the handling and laundering of contaminated items to preclude the spread of infections.

CAUTION: Extreme care must be taken to avoid contact with the contaminated laundry to prevent the spread of infection to laundry and other hospital personnel.

TAB C-69

PROCEDURES FOR RELEASE OF MEDICAL INFORMATION

A. **PURPOSE:** To provide procedures of release of medical information within the hospital.

B. **DEFINITION:** Medical Information - Information contained in the health or dental record of individuals who have undergone medical examination or treatment.

C. **EQUIPMENT, SUPPLIES, AND FORMS REQUIRED:** N/A.

D. **STEPS:**

Upon presentation of requests for medical information refer to procedures contained in the following references:

1. Manual of the Medical Department.

2. Freedom of Information Act, BUMEDINST 5720.8.

3. Personal Privacy and Rights of Individuals Regarding Records, SECNAVINST 5211.5.

4. Availability of Navy Records, Policies, SECNAVINST 5720.42.

E. **GENERAL GUIDELINES:**

1. Information contained in health care records of individuals who have undergone medical or dental examination or treatment is personal to the individual and is therefore considered to be of a private and confidential nature. Information from such health care records, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy, should not be made available to anyone except as authorized by the patient or as allowed by the provisions of Manual of the Medical Department and the Privacy Act of 1974 as implemented by SECNAVINST 5211.5 series.

2. Release of information will be coordinated by the Patient Affairs Officer.

3. Personal information of non-medical nature will not be released.

4. Personnel in the patients chain of command may be provided with information required to conduct command business but will be referred to the Patient Affairs Office.

5. Release of information will conform to local command and superior command policy.

6. All Department Heads shall ensure wide dissemination of this information and compliance with procedures outlined herein.

F. **RESPONSIBILITY:**

1. Director of Administration.

2. Patient Affairs Officer.

3. Charge Nurse or Assistant.

TAB D

CLINICAL POLICIES/GUIDELINES

INDEX

TAB D-1

RADIOLOGY POLICIES

A. No myleograms will be done at Echelon 3.

B. Radiology department will be the custodian of films and be responsible for final reading and interpretation.

C. Single shot angiography will be available in the theater.

D. CT Scan equipment meeting appropriate RAM characteristics for the combat zone should be vigorously pursued.

E. The interpretation for the X-ray procedures which involve acute care will be performed by the requesting medical officer with consultation with the radiologist.

TAB D-2

RADIOLOGY GUIDELINES

A. Radiology tasks have been documented in the data base in an attempt to define which x-ray will be done normally on a Low CAP vs High CAP machine. If a patient could go to the machine and a high cap x-ray was taken and noted as F(D) (subfunction) Task, in event the machine had to be brought to the patient, E (subfunction) Task, denoting Low CAP or portables were used. A subfunction "M" denotes a Low CAP 100 MA machine while "E" is specific for Soma machine. Thus all F (E) Tasks appear to be duplicated as FM. This is only to account for both portable and mobile Low CAPS.

B. Assumptions made were that:

1. X-rays ordered in OR, and

2. X-ray on critically ill patients and those on ventilators in EMS had low cap.

3. All special study x-rays were High CAP.

C. Five percent additional X-rays were taken for poor quality films. This factor will not apply for special studies series, e.g., IVP and CT Scan.

D. Five percent additional x-rays were taken at Echelon 4 because of lost or damaged films. This factor was applied by PC and not bulked in to avoid errors such as x-ray retake on a limb that may have been amputated at Echelon 3.

E. Interpretation of each series of films is assumed to take three minutes by a radiologist, i.e., a PC with chest, abdomen, and a forearm series would have nine minutes of film interpretation. Eight minutes will be allotted for interpretation of each special study.

F. No ultrasound or nuclear medicine capabilities exist in theater.

G. Fractures reduced by open or closed reduction receive post reduction film.

H. All times include time for developing x-ray film taken.

I. IVP series includes scout film of abdomen.

TAB E

STANDARDS AND JOB DESCRIPTIONS

INDEX

TAB E-1

CLEANING RADIOLOGY DEPARTMENT SCHEDULE

A. **PURPOSE:** To maintain the cleanliness of the department and keep all areas free from any environmental hazard.

B. **EQUIPMENT, SUPPLIES AND FORMS REQUIRED:**

1. 1 Mop bucket and mop squeegee.

2. 2 Mop handles and removable mop heads.

3. 2 Push brooms.

4. 1 Disinfectant solution.

5. 4 Sponges.

6. 1 Dust pan.

7. 1 Foxtail.

8. Laundry bags.

9. Plastic trash bags (small and large liners).

C. **CRITERIA:**

1. Damp dust all tables, shelves and equipments before the end of each shift.

2. Daily cleaning schedule will not exceed 30 minutes.

3. Trash, soiled linens, and all medical waste are properly disposed after each procedure.

4. Specific working areas will be cleaned and squared away at the end of each shift.

5. Temper tents are cleaned every Thursday. Change ISO container vent covers weekly.

D. **DAILY CLEANING SCHEDULE:**

1. Damp dust specific assigned spaces before the end of each shift.

2. Wash sinks and toilet bowls in each assigned space at the end of each shift.

3. Wipe counter tops and table tops with disinfectant solution (SN: 6840-01-066-7466, PG).

4. The outside of dirty film cassettes must be wiped with disinfectant solution.

5. Allow all surfaces to air dry.

6. Organize all equipments and restock supplies as needed.

E. **WEEKLY CLEANING SCHEDULE:**

1. Wash down ISO Container bulkheads with disinfectant (SN:6840-01-066-7455, PG) solution every Thursday - to be done by day shift.

2. Change vent covers to ISO containers - to be done by day shift.

3. Launder cotton liners of temper tent at discretion of supervisor - to be prepared and reassembled by night shift.

4. Log cleaning in the Radiology Department Daily Log maintained by the leading Petty Officer.

F. **RESPONSIBILITY:**

X-ray technicians.

TAB E-2

WORKING UNIFORM FOR RADIOLOGY PERSONNEL

1. The prescribed uniform of the day will be worn at all times or as directed.
2. Lab coats or smock jackets can be worn in the department as directed.
3. Personnel operating portable machine in the Operating Room will wear:
    a. Scrub pants and top.
    b. Cap or hood.
    c. Shoe covers.

TAB E-3

HEAD, RADIOLOGY DEPARTMENT JOB DESCRIPTION

A. **RESPONSIBILITIES:** Responsible and accountable for the management of all functions and services performed by the Radiology Department.

SPECIFICALLY HE WILL:

1. Set policies and procedures for running the Radiology Department.
2. Approve all communications within and outside of the department.
3. Approve all personnel performance evaluations.
4. Perform x-ray or fluoroscopic studies.
5. Legibly record all interpretation and diagnoses.
6. Oversee an inservice education and training program.
7. Prepare and submit all departmental reports in final form.

B. **QUALIFICATIONS:**

1. Designator 2100/0-5.
2. Billet number 78020.00.
3. Licensed Physician; Board Eligible or Board Certified Radiologist.
4. ACLS certified.

TAB E-4

STAFF RADIOLOGIST JOB DESCRIPTION

A. **RESPONSIBILITIES:**

1. Demonstrate expertise in diagnostic Radiology.

2. Study developed x-rays or fluoroscope, evaluate findings, and correlate them with other examinations and tests.

3. Legibly record interpretations and diagnoses.

4. Administer any radiopaque substances that the patient cannot take orally.

5. Consult with other Department Heads to interpret radiologic findings and assist in determining what specific radiologic examinations are necessary for accurate diagnosis and treatment.

6. Conduct training courses for Radiology staff.

7. Perform administrative duties as assigned by the Chief of Radiology Department.

B. **QUALIFICATIONS:**

1. Designator 2100/0-3 or 0-4 rank.

2. Must be a licensed physician able to practice radiology as determined by NAVMED regulations and instructions. Billet number 78040.00

3. ACLS certified.

TAB E-5

CHIEF X-RAY TECHNICIAN/SUPERVISOR JOB DESCRIPTION

A. **RESPONSIBILITIES**: The Chief X-ray Technician will:

1. Direct, assist, orient, and instruct staff in principles, procedures, and safety precautions employed in Radiology Department.

2. Supervise, schedule, and coordinate activities of departmental personnel with section LPO.

3. Supervise supplies procurement and make recommendations for improvement, replacement, or purchase of products.

a. Prepare supply requisitions.

b. Maintain supply storerooms, and monitor stock level.

4. Interpret and implement hospital policies and procedures applicable to Radiology Department.

5. Evaluate the performance of all enlisted personnel.

a. Maintain anecdotal notes on personnel.

b. Prepare enlisted performance evaluations as required.

6. Coordinate leave/liberty for enlisted personnel.

7. Ensure that all hands are knowledgeable of all safety related codes, (i.e., fire and evacuation flow charts) during both drills and actual emergencies.

8. Prepare and submit changes to the Radiology Department Procedure Manual for approval by the Head, Radiology Department.

9. Develop and prepare departmental report.

10. Prepare monthly morbidity and photo dosimetry reports.

a. Monitor personnel dosimetry program.

11. Monitor compliance of all personnel with Radiation Safety Directives.

12. Monitor all imaging equipment quality control procedures and results.

13. Prepare work requests and monitor progress.

14. Prepare and submit Fire and Watch Bills monthly.

15. Assist the Head, Radiology Department.

16. Identify educational needs for the department and help plan and teach the programs.

B. **QUALIFICATIONS**:

1. Rate C-7 recommended.

2. NEC 8452 (preferably a Registered Technician).

3. BCLS certified.

TAB E-6

WATCH SECTION LPO JOB DESCRIPTION

A. **RESPONSIBILITIES**: The Leading Petty Officer will:

1. Muster personnel and inform them of the plan of the day and any changes.

2. Make daily personnel assignments; set the work pace and priority.

Prepare daily schedule.

3. Supervise performance of subordinates, including that of professional and military nature.

4. Ensure that all tasks are properly completed and safety standards are met.

5. Maintain high standards of personal hygiene and conduct.

6. Maintain clean spaces.

7. Check and maintain daily availability of equipment/supplies and submit order requests to the Chief Technician.

8. Ensure that day logs and daily record sheets have been completed correctly.

9. Report to and obtain assistance from the Chief Technician as needed.

10. Pass word to oncoming watch.

11. Ensure that all films are technically satisfactory.

12. Complete the daily morbidity statistics of each working day at 2400 hours.

13. Process patient records and review entries for correctness.

14. Schedule and coordinate inpatients for studies:

a. Call wards for patients.

b. Monitor portable log book.

c. Advise ward personnel of study requirements when needed.

15. Coordinate acquisitions of repeat or additional studies/views with staff physicians and technicians.

16. Review results of all equipment quality control procedures.

a. Advise the Chief Technologist on all matters of equipment status.

17. Perform other duties as assigned.

18. Advise the Chief Technologist of necessary changes to procedures.

19. In the absence of the Chief Technologist, may be designated acting Chief Tech.

B. **QUALIFICATIONS**:

1. Rank E-6 recommended.

2. NEC 8452.
3. BCLS certified.

TAB E-7

ADVANCED X-RAY TECHNOLOGIST JOB DESCRIPTION

A. **RESPONSIBILITIES:** Under the direction of the Head of Radiology Department and the Chief Technologist, perform radiographic procedures at a technical level not requiring constant supervision of technical detail. Performs a variety of radiological procedures that require independent judgement with ingenuity and initiative. Maintains ethical patient/technologist relationships. Assists and directs the basic technologist. Assumes responsibility for designated areas for procedures as required.

1. Specific technical responsibilities:

   a. Produce radiographs.

      (1) Position and transfer patients.

      (2) Provide immobilization devices as required.

      (3) Select proper technical factor for each patient.

      (4) Select and operate equipment as directed.

      (5) Develop films by automatic or manual processing.

      (6) Provide protection IAW prescribed Safety Standards (TAB)

      (7) Assist Radiologist or Physician in administering contrast.

   b. Practice sterile technique and prevent cross-contamination.

   c. Assist in performance of emergency treatment.

2. Specific administrative responsibilities.

   a. Maintain adequate records as directed.

   b. Maintain orderliness.

   c. Maintain departmental cleanliness.

   d. Secure and restock supplies.

   e. Cooperate with all personnel in the proper conduct of the department.

   f. In the absence of the Supervisor (E-7) or Senior Technologist (E-6's), may be designated Acting Supervisor.

   g. Rotates within the department as required.

3. Training responsibilities. Responsible for teaching and supervising basic technologist the following:

   a. Proper selection of technical factor and film sizes.

   b. Teach a variety of procedures or equipment not routinely used.

   c. Obtain an optimum diagnostic radiograph observing all safety regulations.

   d. Performs other related duties as required.

B. **QUALIFICATIONS:**

1. NEC 8452.
2. Certified in Basic Cardiac Life Support (BCLS).
3. Six months experience as Advanced X-ray Technologist.

TAB E-8

BASIC X-RAY TECHNICIAN JOB DESCRIPTION

A. **RESPONSIBILITIES:** Incumbent must be able to:

1. Perform routine diagnostic x-ray procedures and portable studies.

2. Advise watch LPO of any problems or changes to normal procedures.

3. Assist with scheduling and admission flow of patients.

4. Maintain patient day log and other records as directed.

5. Monitor and direct flow of all incoming phone messages.

6. Maintain cleanliness and orderliness of working space and equipments.

7. Maintain supplies in working space.

8. Assist Radiologist or Physician in administering contrast media.

9. Develop exposed films to produce radiographs by using short-cycle automatic developer or processing film manually.

10. Cooperate with all personnel in the proper conduct of the department.

11. May assist in the use of a variety of equipment or procedures not routinely taught.

12. Pass word to oncoming watch.

B. **QUALIFICATIONS:**

1. Rank E-4.

2. NEC 8451.

3. BCLS certified.

TAB F

REFERENCES

INDEX

NUMBER	TITLE	PAGE

TAB G

FORMS

INDEX

TAB G-1

REGISTRATION PACKAGE

FORM 3X5 CARD

FLEET HOSPITAL UNIT #: _____

NAME: _____

RANK: _____ AGE: _____ DOB:_____

REGISTRATION
NUMBER: _____ DATE: _____

EXAM(S) PERFORMED: _____ FILL DATE IN #2 PENCIL

X-RAY FILM FLASH CARD

KEEP ON FILE

TAB G-2

PORTABLE LOG

DAY/DATE: _____

TIME	PATIENT NAME LAST, INITIALS	WARD	EXAM(S)	TECHNIQUE USED	TECH CALLED	INITIAL

TAB G-3

RADIOLOGY DEPARTMENT

FLUOROSCOPIC SCHEDULE/REPORT

SCHED. TIME	NAME	REGISTER NUMBER	WARD	TYPE OF EXAM REQ	RESULTS

TAB G-4

RADIOLOGY DAY LOG

LEFT FACING PAGE

FLEET HOSPITAL UNIT #: _____

DATE: _____
DD MO YR

FILE NUMBER	PATIENT'S NAME LAST, FIRST I.	RATE/ SERVICE	SSN	TIME

TAB G-4

RADIOLOGY DAY LOG

RIGHT FACING PAGE

START NEW DAY LOG AT 2400 DAILY

PATIENT'S LOCATION	FILMS USED 35X43	24X30	24X24	18X24	TOTAL EXAMS REQUESTED	EXPOSURES
WARD						

TAB G-5

MAS CHART

LEFT FACING PAGE

TIME:	1/120	1/60	1/40	1/30	1/20	1/15	1/10	1/8	3/20	1/5	1/4	
25S	.2	.425	.625	.75	1.25	1.5	2.5	3.125	3.75	5	6.25	
50S	.4	.85	1.25	1.5	2.5	3	5	6.25	7.5	10	12.5	
100S	.8	1.7	2.5	3	5	6	10	12.5	15	20	20	
200L	1.6	3.4	.5	6	10	12	20	25	30	40	50	
300L	2.4	5.1	7.5	9	15	18	30	37.5	45	60	75	
350L	2.8	5.8	8.75	11.6	17.5	23.3	35	43.75	52.5	70	87.5	

TAB G-5

MAS CHART

RIGHT FACING PAGE

3/10	2/5	1/2	3/5	4/5	1	1 1/4	1 1/2	2	2 1/2	3	4	5
7.5	10	12.5	15	20	25	31.25	37.5	50	62.5	75	100	125
15	20	25	30	40	50	62.5	75	100	125	150	200	250
30	40	50	60	80	100	125	150	200	250	300	400	500
60	60	100	120	160	200	150	300	400	500	600	800	1000
90	120	150	180	240	300	375	450	600	750	900	1200	1500
105	140	175	210	280	350	387.5	475	700	875	1050	1400	1750